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L11	L10 same bottom	4	L11
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L7	fiber near0 optic	48969	L7
L6	L4 same (advantag$ or useful$)	21	L6
L5	L4 same bioactive	0	L5
L4	L3 same coat$	218	L4
L3	well same bottom same reflective	765	L3
L2	L1 same bottom same reflective	2	L2
L1	well same microsphere	2915	L1

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=> s fiber(w0optic
MISSING OPERATOR 'FIBER(WOOPTIC'
The search profile that was entered contains terms or
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=> s fiber(w) optic
L1        16635 FIBER(W) OPTIC

=> s l1 (p)well
L2         1232 L1 (P) WELL

=> s l2 (p)coat? (p)reflective
L3            2 L2 (P) COAT? (P) REFLECTIVE

=> d bib ab l3 1-2

L3   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2003 ACS on STN
AN   1999:684066  CAPLUS
DN   132:56796
TI   Multilayer absorber/emitter coatings for infrared fiber optic displays
AU   Martin, P. M.; Johnston, J. W.; Stewart, D. C.; Bennett, W. D.; Dalbey, R.
     Z.
CS   Battelle Pacific Northwest National Laboratory, Richland, WA, USA
SO   Annual Technical Conference Proceedings - Society of Vacuum Coaters
     (1998), 41st, 212-216
     CODEN: ATCCDI; ISSN: 0731-1699
PB   Society of Vacuum Coaters
DT   Journal
LA   English
AB   Multilayer tuned IR absorber/emitter coatings were applied to
     fiber optic IR screen projectors.  The coatings
     consisted of a three layer Si3N4/Cr/Si3N4 absorber tuned at the 1.06 .mu.m
     laser wavelength, and a six layer Cr/dielec./Cr/dielec./Cr/dielec.
     coating which emitted strongly in either the 3-5 .mu.m or the 8-12
     .mu.m IR wavelength bands.  All coatings were deposited by
     reactive d.c. and RF magnetron sputtering onto 2.5" fiber
     optic faceplates.  The fibers were potted in the square array,
     planarized, and then the potting material removed to a depth of 20 .mu.m
     to prevent cross talk between the fibers.  Either Si3N4, Si, or ZnS thin
     film dielec. materials were used in the emitter coatings.  Si3N4
     was used in the 3-5 .mu.m emitter designs, and was not usable for the 8-12
     .mu.m designs because of the Si-N Rhestrahlen band near 8 .mu.m.  Si and
     ZnS were used for both wavelength ranges.  The absorption of the three
     layer coating was > 0.99 at 1.06 .mu.m.  The av. emittance of
     the six layer coatings was > 0.95 at the design wavelengths.
     With an input laser power of 15 W, the coatings emitted at a
     black body temp. 529 K, which compares well with black body
     radiation predictions.  The coatings were analyzed after thermal
     cycling, and some delamination occurred at the edges of the fiber
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surfaces. This was attributed to residual potting material left on the edges of the fibers, and to surface defects in the fibers. The selection of the metal **reflective** layer and a non-absorbing dielec. layer was crit. to the performance of the **coating**, which let to general design rules for this type of **coating**.

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ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:363300 CAPLUS
DN 131:94594
TI Multilayer coatings and optical materials for tuned infrared emittance and thermal control
AU Martin, P. M.; Johnston, J. W.; Bennett, W. D.
CS Pacific Northwest National Laboratory, Richland, WA, 99352, USA
SO Materials Research Society Symposium Proceedings (1999), 555(Properties and Processing of Vapor-Deposited Coatings), 3-12
CODEN: MRSPDH; ISSN: 0272-9172
PB Materials Research Society
DT Journal
LA English
AB Many thermal control applications require thin film **coatings** that emit or absorb strongly at near IR and IR wavelengths. One of the primary applications for these **coatings** is thermal control for surfaces and structures of spacecraft, which are exposed to solar radiation during at least 60% of their orbit, causing wide temp. fluctuations. Another recent application for this type of **coating** is IR emissive imaging employing a **fiber optic** IR scene projector. While single layer **coatings** can provide high emissivity in a broad wavelength band, multilayer **coatings** can be used to obtain higher emissivities over a narrow wavelength band. This band can be tuned to a specific range of temps. and wavelengths. **Coatings** developed for thermal control have a **reflective** base layer, either ZrN or a refractory metal boride or silicide. These materials have increased durability compared to metal layers. The multilayer **coating** deposited over the based layer consists of an Al2O3/SiO2 stack with high emittance at 300 K (9.8 .mu.m), and solar reflectance near 0.6. Multilayer tuned IR absorber/emitter **coatings** are applied to **fiber optic** IR scene projectors. The **coatings** consists of a three layer Si3N4/Cr/Si3N4 absorber tuned at the 1.06 .mu.m laser wavelength, and a six layer Cr/dielec./Cr/dielec./Cr/dielec. **coating** which emits strongly in either the 3-5 .mu.m or the 8-12 .mu.m IR wavelength bands. Absorption bands of the **coatings** are independently tunable. All **coatings** are deposited by reactive d.c. and RF magnetron sputtering onto 2.5-in **fiber optic** faceplates. Either Si3N4, Si, or ZnS thin film dielec. materials were used in the emitter **coatings**. With an input laser power of 15 W, the **coatings** emit at a black body temp. 529 K, which compared **well** with predicted performance.

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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